

Interview Summary	Application No. 09/879,034	Applicant(s) NAITO, TOMIHISA	
	Examiner Christopher S. Kim	Art Unit 3752	

All participants (applicant, applicant's representative, PTO personnel):

(1) Christopher S. Kim. (3) _____

(2) Tara Custer. (4) _____

Date of Interview: 13 May 2004.

Type: a) ☐ Telephonic b) ☐ Video Conference
c) ☒ Personal [copy given to: 1) ☐ applicant 2) ☒ applicant's representative]

Exhibit shown or demonstration conducted: d) ☐ Yes e) ☐ No.
If Yes, brief description: _____

Claim(s) discussed: 7.

Identification of prior art discussed: Art of Record.

Agreement with respect to the claims f) ☐ was reached. g) ☒ was not reached. h) ☐ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: Applicant's proposed amendment "on the central axis of said inner cylinder" is disclosed by Benton's pipe d4.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN ONE MONTH FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.

 **CHRISTOPHER S. KIM**
PATENT
Examiner's signature, if required

Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record

A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews

Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.

All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:

- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:

- 1) A brief description of the nature of any exhibit shown or any demonstration conducted,
- 2) an identification of the claims discussed,
- 3) an identification of the specific prior art discussed,
- 4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
- 5) a brief identification of the general thrust of the principal arguments presented to the examiner,
(The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
- 6) a general indication of any other pertinent matters discussed, and
- 7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Attorney Docket No.: 37872-0004

Applicant(s): Tomihisa NAITO

Confirmation No. 3566

Appl. No.: 09/879,034

Examiner: Christopher S. Kim

Filing Date: June 13, 2001

Group Art Unit: 3752

Title: ATOMIZING APPARATUS AND METHOD

**AMENDMENT AND REQUEST FOR RECONSIDERATION
UNDER 37 CFR § 1.116**

Box AF

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Sir:

Applicant herein responds to the Final Office Action mailed December 16, 2003 (Paper No. 10) for the above-captioned patent application. A response was due March 16, 2004.

Applicants enclose herewith a check in the amount of \$210.00 for a two month extension of time until May 16, 2004. If any additional payments are due at this time, the Commissioner is hereby authorized to credit any overpayment or to charge any deficiency to Deposit Account No. 08-1641.

Please amend the above-identified application as follows:

Amendments to the Claims begin on page 2 of this paper.

Remarks/Arguments begin on page 5 of this paper.

AMENDMENTS

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

Claims 1-6. (canceled).

Claim 7. (currently amended): An atomizing apparatus comprising:

- (a) an outer cylinder connected to an outlet;
- (b) an inlet which is connected to said outer cylinder, said inlet being perpendicular to an axial direction of said outer cylinder;
- (c) a chamber formed at an intersection of said outer cylinder and said inlet, wherein said chamber is in fluid communication with said inlet;
- (d) an inner cylinder fitted inside said outer cylinder, wherein said inner cylinder contains a plurality of holes exposed to said chamber; and
- (e) a water passage provided **on the central axis of** ~~[[in]]~~ said inner cylinder, whereby atomization temperature is capable of being adjusted by adjusting said temperature of water in said passage.

Claim 8. (canceled).

Claim 9. (currently amended): The atomizing apparatus of claim ~~[[2]]~~ 7, wherein said inner cylinder is connected to a screw positioned opposite said outlet of said outer cylinder, whereby said inner cylinder moves in said axial direction by turning said screw.

Claims 10-12. (canceled).

Claim 13. (new) The atomizing apparatus of claim 7, wherein said holes in said inner cylinder are arranged as groups of holes, wherein each group contains holes with substantially the same diameter relative to one another, wherein a single group of holes is exposed to said chamber.

Claim 14. (new) The atomizing apparatus of claim 7, wherein an outer periphery of said inner cylinder abuts against an inner periphery of said outer cylinder, wherein said inner cylinder slidably moves in said axial direction.

Claim 15. (new) The atomizing apparatus of claim 7, wherein said plurality of holes are opposed to one another on a circumference that is the same as a circumference of said inner cylinder.

Claim 16. (new) The atomizing apparatus of claim 7, wherein said chamber is a pressurizing chamber, which is capable of carrying out atomization therein.

Claim 17. (new) The atomizing apparatus of claim 7, further comprising a plurality of pressure-leakage preventing members fitted into an inner periphery of said outer cylinder,

whereby said pressure-leakage preventing members abut an outer periphery of said inner cylinder.

Claim 18. (new) An atomizing apparatus comprising:

- (a) an outer cylinder connected to an outlet;
 - (b) an inlet which is connected to said outer cylinder, said inlet being perpendicular to an axial direction of said outer cylinder;
 - (c) a chamber formed at an intersection of said outer cylinder and said inlet, wherein said chamber is in fluid communication with said inlet; and
 - (d) an inner cylinder fitted inside said outer cylinder, wherein said inner cylinder contains a plurality of holes exposed to said chamber,
- wherein said plurality of holes are opposed to one another in a circumference that is the same as a circumference of said inner cylinder.

REMARKS/ARGUMENTS

I. Introduction

Receipt is acknowledged of the Final Office Action dated December 16, 2003. Currently, claims 2-9 remain pending in the application. Claims 10-12 were canceled in Applicant's Preliminary Amendment filed March 13, 2003. Claim 1 was canceled in Applicant's Amendment filed September 24, 2003. Claims 2-6 and 8 are canceled herewith. Claims 2-6 have been rewritten as new claims 13-17 to depend from independent claim 7. Claims 7 and 9 have been amended. New claim 18 has been added. No new matter has been added in these amendments.

II. The Examiner's Rejections and Applicant's Responses

A. Rejections Under 35 U.S.C. § 112, second paragraph

The Examiner has rejected claims 2-6 and 9 under 35 U.S.C. § 112, second paragraph, as being indefinite for the alleged reason that it is uncertain what dimension or parameter (i.e., radius, diameter, thickness, spacing, etc.) defines "0.8 mm, 0.5 mm, and 0.2 mm, respectively" in claim 2.

Applicant respectfully traverses this rejection and without acquiescing in the rejection, Applicant has rendered this rejection moot by canceling claims 2-6, thereby deleting the claim language "0.8 mm, 0.5 mm, and 0.2 mm, respectively" in claim 2 and by amending claim 9 to depend from claim 7 instead of claim 2. New claims 13-17, which correspond to canceled claims 2-6, and claim 9 should no longer be subject to rejection because they have been amended to depend from amended independent claim 7. Therefore, claims 9 and 13-17 do not encompass

any of the limitations of canceled claim 2, such as alleged indefinite hole dimensions, that prompted the Examiner's rejection of claims 2-6 and 9. Thus, Applicants respectfully request that these rejections be withdrawn.

B. Rejections Under 35 U.S.C. § 103(a)

1. Dixon in view of Blair

The Examiner has rejected claims 2-5 and 9 under 35 U.S.C. § 103(a) as being unpatentable over Dixon (U.S. Patent No. 4,508,138) in view of Blair (U.S. Patent No. 3,853,146). The Examiner has stated that although Dixon differs from the claimed invention in hole diameter, it would have been obvious to one of ordinary skill in the art at the time of the invention to have provided three groups of holes having diameters of 0.8 mm, 0.5 mm, and 0.2 mm to vary the delivery of the fluid, as taught in Blair.

Applicant respectfully traverses this rejection and without acquiescing in the rejection, Applicant has rendered this rejection moot by canceling claims 2-5, thereby deleting the claim language "0.8 mm, 0.5 mm, and 0.2 mm, respectively" in claim 2 and by amending claim 9 to depend from claim 7 instead of claim 2. New claims 13-16, which correspond to canceled claims 2-5, and claim 9 should no longer be subject to rejection because they have been amended to depend from amended independent claim 7. Therefore, claims 9 and 13-16 do not encompass any of the limitations of canceled claim 2, such as holes having diameters of 0.8 mm, 0.5 mm, and 0.2 mm, that prompted the Examiner's rejection of claims 2-5 and 9. Thus, Applicants respectfully request that these rejections be withdrawn.

2. Dixon in view of Benton

The Examiner has rejected claim 7 under 35 U.S.C. § 103(a) as being unpatentable over Dixon (U.S. Patent No. 4,508,138) in view of Benton (U.S. Patent No. 329,881). The Examiner has alleged that Dixon discloses an atomizing apparatus comprising: an outer cylinder, an outlet, an inlet, a chamber, and an inner cylinder. The Examiner has stated that Dixon discloses the limitations of the claimed invention with the exception of the water passage and that it would have been obvious to a person having ordinary skill in the art at the time of the invention to have provided a water passage in the device of Dixon as taught by Benton to thaw fluid.

Applicant respectfully traverses this rejection. To establish a *prima facie* case of obviousness under 35 U.S.C. § 103, three basic criteria must be met: 1) there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the references or to combine the reference teachings; 2) there must be a reasonable expectation of success upon combining such references; and 3) the prior art reference (or references when combined) must teach or suggest all the claim limitations. “A prior art reference must be considered in its entirety, *i.e.*, as a whole, including portions that would lead away from the claimed invention.” *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984) (emphasis applied). An inquiry that focuses on [mere] substitutions and differences, instead of the invention as a whole, is legally improper. *See Hybritech v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1383, 231 U.S.P.Q. 81, 93 (Fed. Cir. 1986). Evidence of a suggestion, teaching or motivation to modify a reference may flow from the prior art references themselves, the

knowledge of one of ordinary skill in the art, or, in some cases, from the nature of the problem to be solved. *See Pro-Mold & Tool Co. v. Great Lakes Plastics, Inc.*, 75 F.3d 1568, 1573, 37 USPQ2d 1626, 1630 (Fed. Cir. 1996), *Para-Ordinance Mfg. v. SGS Imports Intern., Inc.*, 73 F.3d 1085, 1088, 37 USPQ2d 1237, 1240 (Fed. Cir. 1995), although "the suggestion more often comes from the teachings of the pertinent references," *In re Rouffett*, 149 F.3d 1350, 1355, 47 USPQ2d 1453, 1456 (Fed. Cir. 1998). The teaching or suggestion to make the claimed combination and the reasonable expectation of success must not be based on the Applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991). *See* M.P.E.P. § 2142, and "may not be established using hindsight or in view of the teachings or suggestions of the inventor." *Para-Ordinance Mfg.*, 73 F.3d at 1087, 37 USPQ2d at 1239, *citing W.L. Gore*, 721 F.2d at 1551, 1553, 220 USPQ at 311, 312-13. Likewise, a broad conclusory statement regarding the obviousness of modifying a reference, standing alone, is not "evidence". *McElmurry v. Arkansas Power & Light Co.*, 995 F.2d 1576, 1578, 27 USPQ2d 1129, 1131 (Fed. Cir. 1993). "The mere fact that the prior art may be modified in the manner suggested by the Examiner does not suggest the desirability of the modification." *In re Fritch*, 972 F.2d 1260, 1266 n. 14, 23 USPQ2d 1780, 1783-84 n. 14 (Fed. Cir. 1992), *citing In re Gordon*, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984). When the motivation to combine the teachings of the references is not immediately apparent, it is the duty of the Examiner to explain why the combination of the teachings is proper. *Ex parte Skinner*, 2 U.S.P.Q.2d 1788 (Bd. Pat. App. & Inter. 1986). "The mere fact that references *can* be combined or modified does not render the resultant combination obvious, unless the prior art also suggests the *desirability* of the combination." M.P.E.P. § 2143.01 (*citing In re Mills*, 916 F.2d 680, 16 U.S.P.Q.2d 1430 (Fed.

Cir. 1990) (emphasis added)).

Applicant notes that claim 7 has been amended to recite "a water passage provided *on the central axis of* said inner cylinder" (emphasis added), in order to further distinguish the claimed invention (as pictured in Figure 5, no. 25). Applicant submits that amended claim 7 is unobvious in view of Dixon or Benton and that the Examiner has not shown why one of ordinary skill in the art would have been motivated to successfully combine Dixon with Benton. Dixon claims a valve comprising "an inlet chamber disposed about an axis" and a valve body that is "symmetrical about a main axis" (col. 3-4, claims 1, 4). The object of the Dixon patent is to provide a generic polyjet valve with a fluid backwash feature to reverse the direction of a liquid flow and to get rid of waste. Dixon does not teach for what this polyjet would be useful. Nor does Dixon make any reference to temperature control or thawing.

The object of the Benton patent is to instantly thaw frozen hydrant or water-pipes by injecting a jet of steam through a smaller tube inserted into a frozen hydrant or water-pipe. The Benton patent does not disclose a means by which the water-pipe passageway affects thawing through controlled temperature regulation. The three disclosed water pipes (d⁵) of Benton are not arranged around the center of the main water pipe (e), but are arranged symmetrically in relation to each other in the main pipe as shown in Fig. 4 because this arrangement is desirable for thawing fluid in the main pipe. The Benton patent was disclosed in 1885 and does not seem to be commonly used in the prior art. Furthermore, although Benton teaches that the claimed tube may be attached to a hydrant or water pipe, it would not be apparent to one of ordinary skill in the art where on the main pipe of Dixon, to place the water pipes (d⁵) of Benton. There are numerous choices of positions in which to place the water pipes and numerous purposes that

each of the inventions taught in Dixon and Benton could have, which are different from the claimed invention.

Even if there was a motivation to combine Dixon and Benton, the combined teachings would not teach all of the limitations of the claimed invention. In contrast to Dixon and Benton or any combination thereof, the water passage (25) of the present invention is provided for the purpose of excellent atomization processing through temperature regulation (see page 6, lines 1-9), the plurality of the holes are opposed to one another on the same circumference of inner cylinder 17 (page 5, lines 21-22), and the water passage (25) of the present invention is arranged along the center of the inner cylinder (17) because this is desirable for excellently atomizing pressurized raw materials in the inner cylinder.

Applicant respectfully submits that because of the differences between Dixon and Benton, one of ordinary skill in the art would not have been motivated to successfully place the water-thawing pipe device of Benton in the polyjet valve of Dixon in order to control an atomization process through temperature regulation, as in the claimed invention, and neither Dixon, Benton, or any combination thereof teach all of the limitations of the claimed invention. Therefore, Applicants respectfully submit that this rejection be withdrawn.

3. Dixon in view of Young et al.

The Examiner has rejected claim 8 under 35 U.S.C. § 103(a) as being unpatentable over Dixon (U.S. Patent No. 4,508,138) in view of Young *et al.* (U.S. Patent No. 6,012,646).

Applicant respectfully traverses this rejection and without acquiescing in the rejection, Applicant has rendered this rejection moot by canceling claim 8. Thus, Applicants respectfully request that these rejections be withdrawn.

III. Conclusion

In consideration of the above amendments and remarks, Applicant respectfully requests that the rejections under § 112, second paragraph and § 103(a) be withdrawn and a timely Notice of Allowance be issued in this application. Should there be any questions, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

Date: _____

By: _____

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